said cavities converge at a first, a second, a third and a fourth planar surface of said frame;

e) a pair of adjacent segments of one of each of said three cavities converging at the centers of said first, said second and said third planar surfaces;

f) adjacent segments of all of said cavities converging at said fourth planar surface in a pattern defining an equilateral triangle centered within said fourth planar surface;

g) means for creating nonreciprocal splitting of modes within all of said cavities in accordance with the Faraday effect being fixed to said fourth planar surface of said frame, said means comprising (i) a mirror substrate, (ii) the upper surface of said substrate being capable of reflecting at least a portion of incident light, and (iii) a magnet associated with said mirror substrate;

h) a cavity length control mirror fixed to each of said first, said second and said third planar surfaces of said frame; and

i) each of said cavity length control mirrors comprising (i) a disk having opposed surfaces, (ii) one surface of said disk having a reflective coating throughout, (iii) said surface having a curved central indentation and a flat peripheral region, and (iv) said disk being fixed to said planar surface so that said central indentation overlies said convergence of segments of a nonplanar cavity at the center of said planar surface and said flat peripheral region overlies said convergence of segments of said other two nonplanar cavities.

5. A ring laser gyroscope for measuring rotation about three orthogonal axes comprising, in combination:

a) a three-dimensional frame;

b) the exterior of said frame comprising fourteen planar surfaces defining a truncated regular octahedron or tetrahedron;

c) three intersecting closed non-planar cavities within said frame;

d) each of said cavities comprising four straight segments of equal lengths, said segments of said cavities being arranged so that ends of adjacent segments of each of said cavities converge at a first, a second, a third and a fourth planar surface of said frame;

e) a pair of adjacent segments of one of each of said three cavities converging at the centers of said first, said second and said third planar surfaces;

f) adjacent segments of all of said cavities converging at said fourth planar surface in a pattern defining an equilateral triangle centered within said fourth planar surface;

g) means for creating nonreciprocal splitting of modes within all of said cavities in accordance with the Faraday effect being fixed to said fourth planar surface of said frame, said means comprising (i) a mirror substrate, (ii) the upper surface of said substrate including a partially-transmissive reflective coating, and (iii) a magnet associated with said mirror substrate;

h) said substrate being generally disk-shaped with a central aperture;

i) said magnet being rod-shaped;

j) said rod-shaped magnet being coaxial with and extending both above and beneath said substrate through said aperture; and

k) a bore in said frame at the center of said fourth planar surface for receiving the lower portion of said rod-like magnet.

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